REMARKS

New claims 21-33 are added to claim the invention in alternative form.

New drawings are included for FIGs. 3 and 6 in response to the Draftsperson's Notice.

A supplemental form, PTO-1449, is submitted herewith. The Wong and Gross references are believed to have been cited and provided in a previous Information Disclosure Statement dated May 2, 2001. Copies of the Wong and Gross references, along with the previously filed PTO-1449, are also submitted for the Examiner's convenience. A copy of the Glassner reference is not readily attainable. Authorization is given to charge Deposit Account No. 08-2025 for any requisite fees associated with the PTO-1449 submission.

The Office Action fails to establish that claims 1-14, 16, and 19-20 are unpatentable under 35 USC §103(a) over the paper entitled, "Detecting Seasonal Trends and Cluster Motion Visualization for Very High Dimensional Transaction Data" by Gupta et al. ("Gupta") in view of US patent number 5,794,209 to Agrawal et al. ("Agrawal"). The rejection is respectfully traversed because a *prima facie* case of obviousness is not established. The limitations of the claims are not shown to be suggested or motivated by the combination, and the alleged motivations for modifying Gupta with Agrawal are improper. Furthermore, the rejection fails to show a reasonable expectation that Gupta could be successfully modified with the teachings of Agrawal (MPEP 2143).

The Office Action fails to establish that the limitations of claims 1 and 11 are shown or suggested by the combination. For example, claim 1 includes limitations that relate to generating a graph of transaction items by arranging the items on a spherical surface to specify an initial position of each item, and the Office Action cites Gupta's page 11, section 5.2, along with Gupta's figures 4a and 4b as teaching these limitations. Claim 11 includes similar limitations. However, neither the text nor the figures describe nor show either a spherical surface or arranging items on a spherical surface, and the Office Action does not identify any specific elements of Gupta that are believed to correspond to these limitations.

In another example, claim 1 includes limitations that relate to constructing a frequency matrix for defining a stiffness measure of a spring attached to each pair of items, and the Office Action cites Gupta's section 5.2 and page 13, lines 1-14 as teaching these limitations. However, these teachings do not in any apparent way teach the stiffness measure of a spring or using this as attaching pairs of item.

The Office Action is similarly deficient in alleging that the other limitations of claim 1 are taught by Gupta. Because of the absence of any clear correspondence between elements of Gupta and the claim limitations and the absence of any explanation in the Office Action, Applicant respectfully requests an explanation of how specific elements of Gupta relate to the limitations of the claims if the rejection is maintained. Otherwise, the rejection should be withdrawn.

The Office Action does not provide sufficient evidence of a motivation for modifying Gupta with the teachings of Agrawal, and therefore, the combination is improper. The Office Action alleges that the combination is obvious because Gupta is directed to visualization schemes for transactional data and Agrawal is directed to discovering association rules in databases, and because the combination "would have allowed uses of Gupta to implement computer program product that selects specific subsets of itemsets and satisfies the minimum confidence criteria defined by the user, further satisfies rules associated the discovering trends between item set recurrence at least equals user-defined confidence as suggested by Agrawal et al." However, this alleged motivation to the extent it is understood, ignores the fact that Agrawal and Gupta appear to address different problem. Agrawal appears to be directed to discovering associations between types transactions, e.g., tire purchases and wheel balancing services (col. 6, ll. 30-43), while Gupta appears to be directed to finding market migration and customer migration from transactional data (p. 2, para. 1). The different problem areas addressed by Agrawal and Gupta weigh against modifying one with the teachings of the other.

The alleged motivation is also improper because it is unsupported by any evidence and therefore, conclusory. This alleged motivation is merely a broad, conclusory statement of a perceived benefit. The alleged motivation lacks clear and particular reasons that would lead one of ordinary skill in the art to modify specific teachings of Gupta with specific teachings of Agrawal. For example, the Office Action provides no evidence that Gupta is somehow

inaccurate or has lesser "performance," nor does the Office Action provide evidence as to the specific elements of Gupta that could be modified by specific elements of Agrawal and made more accurate and have improved performance. Addressing the "rigorous ... requirement for a showing of the teaching or motivation to combine prior art references," the Court of Appeals for the Federal Circuit has stated:

> We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, (citations omitted), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. *See, e.g., C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." (citation omitted) *In re Dembiczak*, 175 F.3d 994, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999).

The alleged motivation is merely a broad conclusory statement of a benefit that is speculative, and no evidence has been provided that suggests the combination. The rejection fails to provide a proper motivation for making the combination, fails to show that the limitations of the claims are suggested by the combination, fails to show a reasonable expectation of successfully making the combination, and therefore, fails to establish a *prima facie* case of obviousness for claims 1 and 11.

Claim 2 depends from claim 1, and claim 14 depends indirectly from claim 1. Claims 2 and 14 both include limitations that relate to a confidence matrix for defining the confidence level of each association. The Office Action cites Agrawal's teaching of outputting an association rule when the ratio of the number of times a selected subset appears in the database to the number of times the associated itemset appears in the database exceeds a predetermined minimum confidence value"(col. 4, ll. 15-25). This does not appear to suggest a matrix of the confidence levels. Thus, the limitations of claims 2 and 14 are not shown to be suggested, and *prima facie* obviousness is not established.

Claim 3 depends from claim 2, and claim 4 depends from claim 1. Thus, the Office Action fails to establish a *prima facie* case of obviousness for claims 3 and 4 for at least the reasons set forth above.

Claims 5, 6, and 7 include limitations that further relate to the arranging item on the spherical surface. As previously explained in regards to claim 1, Gupta neither teaches nor suggests arranging the items on a spherical surface. Thus, Gupta does not teach any further refinements of these limitations. Furthermore, employing a Poisson Disc Sampling for distributing the items on the spherical surface is not believed to be well known. If this allegation is maintained, supporting evidence is respectfully requested. For at least the reasons set forth above the Office Action fails to establish a *prima facie* case of obviousness for claims 5, 6, and 7.

Claim 8 depends from claim 1, and the Office Action fails to establish a *prima facie* case of obviousness for at least the reasons set forth above.

Claim 9 depends from claim 1 and includes limitations that further relate to the arranging item on the spherical surface. Thus, for at least the reasons previously explained in regards to claim 1, a *prima facie* case of obviousness is not established for claim 9.

Claim 10 depends from claim 1 and includes limitations that relate to employing color of the edge to indicate confidence level. The Office Action fails to cite any teaching of Gupta or Agrawal as suggesting these limitations, and these references do not appear to suggest this feature. Therefore, a *prima facie* case of obviousness is not established for claim 10.

Claim 12 depends from claim 11 and includes limitations similar to those of claims 1 and 10. Thus, the Office Action fails to establish a *prima facie* case of obviousness for claim 12 for at least the reasons previously explained.

Claim 13 depend depends from claim 12, and *prima facie* obviousness is not established for at least the reasons previously explained.

Claims 16 and 19-20 depend from claim 11, and *prima facie* obviousness is not established for at least the reasons previously explained.

The Office Action fails to establish that claims 15 and 17-18 are unpatentable under 35 USC §103(a) over Gupta in view of Agrawal and further in view of WIPO document number WO 01/08072 A1 by Ratnavale ("Ratnavale"). The rejection is respectfully traversed because *prima facie* obviousness is not established. The limitations of the claims are not shown to be

suggested or motivated by the combination, and the alleged motivations for modifying Gupta with Agrawal and Ratnavale are improper. Furthermore, the rejection fails to show a reasonable expectation that Gupta could be successfully modified with the teachings of Agrawal.

Claim 15 depends from claim 11. Because the Office Action fails to establish a *prima facie* case of obviousness for claim 11 over the Gupta-Agrawal combination, *prima facie* obviousness is not established for claim 15. Furthermore, the alleged motivation for combining Ratnavale with Gupta and Agrawal is improper. The alleged motivation for combining the teachings of Ratnavale with the Gupta and Agrawal is to "access interactive market system via world wide web or internet based product sales and services of Ratnavale [see Abstract, fig 1], further bringing the advantages of multiple buyers, vendors to customize the market to meet their individual needs in real-time via Internet as suggested by Ratnavale." This alleged motivation merely recites certain objectives of Ratnavale, without explaining how either of Gupta or Agrawal is deficient. For example, the Office Action does not explain what need Gupta has for bringing together multiple buyers and vendors, and it not apparent that Gupta is at all compatible with such a function.

Claims 17 and 18 include limitations that relate to using the claimed system in a telecommunications fraud application and in a network traffic analysis application, respectively. The Office Action cites Ratnavale as teaching these limitations. However, the cited sections do not appear to mention any applications related to telecommunications fraud or applications related to network analysis. Applicant respectfully requests an explanation of how the specific elements of Ratnavale relate to the limitations of the claims if the rejection is maintained. Otherwise, the rejection should be withdrawn.

The Office Action fails to establish a *prima facie* case of obviousness of claims 1 and 11 over Gupta in view of the paper entitled, "Evaluation of Sampling for Data Mining of Association Rules," by Zaki et al. ("Zaki"). The Office Action cites Zaki as teaching the limitations that relate to employing a directed edge to represent the association confidence levels. However, the cited sections discuss and illustrate the distribution of experimental confidence to the distribution obtained by Chernoff upper bounds. No teaching or suggestion appears relevant to directed edges to represent confidence levels. Nor does the Office Action explain any

perceived correspondence. If the rejection is maintained, an explanation is requested as to the specific elements of Zaki that are believed to suggest these limitations.

The alleged motivation for combining Zaki with Gupta is improper for reasons similar to those set forth above in the traversal of the Gupta-Agrawal combination because both Zaki and Agrawal are directed to data mining of association rules, and Gupta is related to cluster motion visualization for market and customer migration detected in transactional data. Furthermore, the alleged motivation is improper because it fails to provide evidence that Gupta is deficient in regards to effective sampling or evidence that Gupta could be successfully modified with specific teachings of Zaki.

The Office Action fails to establish a *prima facie* case of obviousness for any of the claims under any of the combinations of references. Withdrawal of the rejection and reconsideration of the claims are respectfully requested. If the examiner has any questions or concerns, a telephone call to the undersigned is welcome.

Respectfully submitted,

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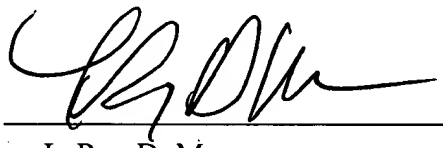
By: 

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